



The Montana Analysis and Reporting System MARS

Use of MARS Data to Impact Instruction

Sponsored by the Office of Public Instruction

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Analysis and Reporting System – Background


Montana Analysis and Reporting System (MARS) reports results for system and schools.

- Individual Students
- Class or Grade Level
- Student Groups
- School
- System
- State

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MARS Results

- Reading and Math
 - Grades 3-8 and 10
- Science
 - Grades 4, 8, and 10

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Analysis and Reporting System – Background

- The Montana Criterion Referenced Test (CRT) compares student achievement to Montana content standards.
- Grades tested;
 - Reading and Math: 3-8 and 10
 - Science: 4, 8, and 10
- Types of items on test:
 - Multiple choice – Reading, Math, and Science
 - Short answer – only Math
 - Constructed response – Reading, Math, and Science
- The CRT consists of scored items and embedded field test items.
- The CRT is intended to
 - Assist educators in planning improvements in curriculum and instruction
 - Monitor the progress of schools in meeting state and federal standards.

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Analysis and Reporting System –
Assessment Techniques & Tools

- Look for trends, patterns, or clusters in the data.
- Analyze results from multiple choice and constructed response (CR) items separately.
- Base decisions on more than one data point.
- Look at results for insights into:
 - Curriculum
 - Instruction
 - Student Achievement
- Share the results appropriately
 - Teachers
 - Parents
 - Students

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Analysis and Reporting System –
CRT Data Analysis

- Analyze
 - Test questions and answer choices
 - Correct answers and incorrect answers
 - The process used by students to arrive at an incorrect response
 - Proficient student responses and below proficient student responses
 - Questions and answers related to each Montana standard
 - Percentage of correct responses for each standard for multiple choice and constructed response
 - Student group statistics
 - School and/or or system performance and the state results

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Reading and Math Content Standards

- The Spring 2010 and 2011 CRT and CRT-Alternate are aligned to previous Reading and Math content standards not current content standards.
- Until 2012, the previous standards are posted on the released items and MARS sites and should be used with the Spring 2010 and 2011 released items and MARS data.
- Spring 2010 released items site:
http://www.opi.mt.gov/curriculum/MontCAS/#p7GPc1_8
- MontCAS Presents MARS site:
http://www.opi.mt.gov/curriculum/MontCAS/#p7GPc1_3

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Science Content Standards

- The current Science CRT and CRT-Alternate are aligned to the current Science standards and are at the site with the current Reading and Math standards site:
http://www.opi.mt.gov/Curriculum/Index.html?gpm=1_8#p7GPc1_8

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Analysis and Reporting System –
CRT Data Analysis


Multiple Choice Questions

- What MT Standard is being assessed?
- What do students need to know to answer the question?
- What strategies would they use to get the correct answer?
- What misconceptions or incorrect processes might lead to each incorrect response?
- What are the implications for instruction?

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Analysis and Reporting System –
 CRT Data Analysis

Constructed Response Questions

- What do students need to know to answer the question?
- What are the main requirements for a scale 4 answer?
- What would be needed to convert a scale 3 response to a scale 4 response?
- What are the implications for instruction?


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Analysis and Reporting System –
 CRT Data Analysis

Released Items

- Scored items are released annually
 - 50% of the items were released in 2010, 2009, 2008, and 2007. 100% of the items were released in previous years.
 - There is a Released Items tab within MARS that can be used to access the current year's released items.
 - You can view multiple years of released items for each grade and subject on the OPI website at:
http://www.opi.mt.gov/curriculum/MontCAS/#gpm1_8
 - Click on the Released Items tab, then the year you would like to view for
 - Multiple choice, constructed response, and math short answer items
 - Math vocabulary, answer keys
 - Scoring rubrics, and examples of student work for constructed response items


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Analysis and Reporting System –
 CRT Data Analysis

Released Items (Cont.)

On the released items table of contents – please look at: CRT Math Vocabulary Lists for grades 3-8 & 10. The math vocabulary used on the test is listed in this file – you may want to make sure that these terms are included in math instruction.

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Navigating and Using MARS

The next series of slides shows how to find and use different features of MARS.

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Analysis and Reporting System – Accessing MARS

- Access the Analysis and Reporting System via the Measured Progress iServices website: <http://iservices.measuredprogress.org>
- Select 'Montana' from the state/contract dropdown menu and select Enter.



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Analysis and Reporting System – Accessing MARS

Click on MARS to launch the login screen.



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Analysis and Reporting System – Accessing MARS


Enter your User Name and Password (classroom account) then click on “Log In”.



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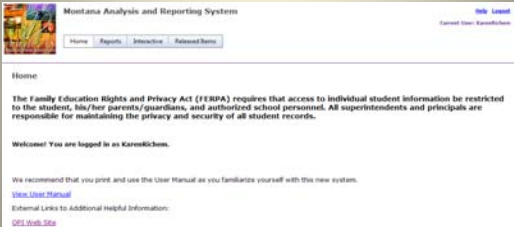


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Analysis and Reporting System – Home Page

After login, the Home page appears:




Links: Home, Reports, Interactive, Released Items, Help, Logout, View User Manual, OPI Web Site.

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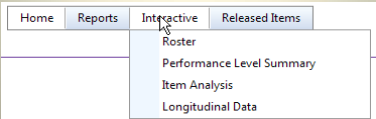
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Analysis and Reporting System – Interactive

The Interactive Menu

- o Roster
- o Performance Level Summary
- o Item Analysis
- o Longitudinal Data



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Analysis and Reporting System – Interactive

Item Analysis

- From the Interactive dropdown, select Item Analysis
- Enter values in Basic Filtering Options. Choose a Filter by Group. Data will automatically refresh and display as values are changed.
- Advanced Filtering Options can be selected to further refine data.
- Multiple Choice and Constructed Response results are displayed separately. For Multiple Choice, Count and Percent values can be selected.

Item Analysis Results

Filter by Group:

Current Item

Custom Filter Item

(Show a Custom Filter Item by ID (characters for ID# only))

Reset
Print
Download

Multiple Choice

@ Count @ Percent

Item Name	Assessment Date	Standard	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Q1	2	9	36	36	9	36	36	36	9	36	36	36
Q2	2	9	36	36	9	36	36	36	9	36	36	36
Q3	2	9	36	36	9	36	36	36	9	36	36	36
Q4	2	9	36	36	9	36	36	36	9	36	36	36
Q5	2	9	36	36	9	36	36	36	9	36	36	36
Q6	2	9	36	36	9	36	36	36	9	36	36	36
Q7	2	9	36	36	9	36	36	36	9	36	36	36
Q8	2	9	36	36	9	36	36	36	9	36	36	36
Q9	2	9	36	36	9	36	36	36	9	36	36	36
Q10	2	9	36	36	9	36	36	36	9	36	36	36
Q11	2	9	36	36	9	36	36	36	9	36	36	36
Q12	2	9	36	36	9	36	36	36	9	36	36	36
Q13	2	9	36	36	9	36	36	36	9	36	36	36

Constructed Response

Item Name	Assessment Date	Standard	Count	Percent	Count	Percent
Q1	2	9	4	3.3	4	3.3
Q2	2	9	4	3.3	4	3.3

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Analysis and Reporting System – Interactive

Item Analysis

- o Items within the Item Analysis can be sorted within the table without having to refresh the window.
- o Sort by: Released Item, Standard, Correct (#), A(#), B(#), C(#), D(#), IR, or Correct Response. It will sort smallest to greatest.

Item Analysis Data

Filter By Group:

Custom POF File

Multiple Choice
☒ Count ☐ Percent

View	Released Item	Standard	A	B	C	D	IR	Correct Response
CL	3	2	40	3	40	33	33	3
CL	3	2	36	4	7	36	3	1
CL	3	2	42	3	38	42	3	0
CL	37	2	33	33	39	33	39	3
CL	3	1	46	40	3	34	3	1
CL	33	1	48	40	3	3	3	4
CL	36	3	30	32	30	3	3	8
CL	29	3	32	6	4	3	32	0


Constructed Response

View	Released Item	Standard	Point Value	Average Score
CL	37	2	3	0.6
CL	31	2	4	2.3
CL	29	3	1	0.5

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of STATE CHARTERS


Item Analysis (Continued)

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View Item	Released Item	Standard	Correct (%)	A (#)	B (#)	C (#)	D (#)	IR (#)	Correct Response
	27	2	15	12	19	15	21	0	C
	29	5	23	6	9	23	29	0	C
	9	7	25	5	9	25	25	3	C
	25	5	33	8	33	10	16	0	B
	18	7	36	10	4	36	17	0	C
	22	5	36	8	9	36	14	0	C
	1	2	40	3	40	13	10	1	B
	17	4	41	4	41	6	16	0	B
	23	6	42	11	10	4	41	1	D
	13	2	42	3	10	42	12	0	C
	24	6	45	7	45	11	3	1	B
	5	2	46	0	7	13	46	1	D


	4	5	53	7	53	4	2	1	B
	7	6	53	2	10	53	1	1	C
	12	7	55	2	8	2	55	0	D
	2	5	58	5	2	1	1	1	A
	16	4	58	3	58	3	3	0	B

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Analysis and Reporting System – Interactive

Longitudinal Data

- From the Interactive dropdown, select Longitudinal Data.
- Enter values in Basic Filtering Options and select a grade.
- Select a student from the list.
- All subject results display with up to four years worth of data.


Longitudinal Data


Filter by Grade:
Grade 03

Export in PDF format

Please Select a Student

Year	Enrolled Grade	School	Administration	Test Name	Content Area	Score	Performance Level
0708	03	School	MontCAS CRT	Grade 03 Mathematics	mat	232	Hearing Proficiency
0708	03	School	MontCAS CRT	Grade 03 Reading	rea	270	Proficient
0809	04	School	MontCAS CRT	Grade 04 Mathematics	mat	267	Proficient
0809	04	School	MontCAS CRT	Grade 04 Reading	rea	270	Proficient
0809	04	School	MontCAS CRT	Grade 04 Science	sci	258	Proficient
0910	05	School	MontCAS CRT	Grade 05 Mathematics	mat	289	Advanced
0910	05	School	MontCAS CRT	Grade 05 Reading	rea	287	Advanced

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Analysis and Reporting System – Reports

Reports

- From the main menu at the top of the screen, select Reports

Home Reports Interactive Released Items

Reports

- Use the drop-down menus in the **Basic Filtering Options** section to select the criteria for your report.
- Use the checkboxes to select the reports that you would like to download from the **Reports** section.
- Many reports downloaded from this site are compressed (zipped) and saved in Portable Document Format (.pdf), you will need a decompression utility and Adobe Acrobat Reader to open reports.
- When saving files, please be sure to save them to a secure location on your network.

- Select Basic Filtering Options.

Basic Filtering Options

Year: 2009-2010

System: Public Schools


Grade: Please Select

Administration: MontCAS CRT

School: School

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Analysis and Reporting System – Reports

Once Basic Filtering Options have been selected:


- Select Reports you would like to download.
- Select Download.
- Save report(s) to computer. As with other reports, it will be compressed.

Reports

☐ Report Name
☒ School Summary - Mathematics
☒ School Summary - Reading
☒ School Summary - Science

Download

NOTE: The number of students on your summary reports may not match the number of students on your roster. Students who were not enrolled the entire year are not included on your summary reports, but are included on the roster.

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Extremely Important!

The information on MARS is confidential and must be protected from viewing by unauthorized individuals.

- Never leave your browser open to MARS when you are not directly working with the program.
- Always completely close your browser and clear the history when you are done on your school computer or especially on any other computer.
- Also, please remember if you export data or copy & paste data from MARS treat it with confidentiality.



CRT Performance Level Descriptors and Scaled Score Ranges (Samples)

Grade 3		
Performance Level	Reading	Mathematics
Advanced	287-300	290-300
Proficient	250-286	250-289
Nearing Proficiency	225-249	225-249
Novice	200-224	200-224

Grade 5		
Performance Level	Reading	Mathematics
Advanced	287-300	289-300
Proficient	250-286	250-288
Nearing Proficiency	225-249	225-249
Novice	200-224	200-224

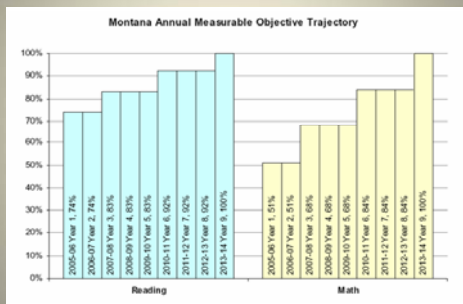
Grade 7		
Performance Level	Reading	Mathematics
Advanced	288-300	289-300
Proficient	250-287	250-288
Nearing Proficiency	225-249	225-249
Novice	200-224	200-224

Grade 10			
Performance Level	Reading	Mathematics	Science
Advanced	289-300	281-300	269-300
Proficient	250-288	250-280	250-268
Nearing Proficiency	225-249	225-249	225-249
Novice	200-224	200-224	200-224

http://www.opi.mt.gov/curriculum/MontCAS/#gpm1_10



Current Timeline for Improvement





Other Supplementary Material

- Montana Content Standards, Benchmarks, and Performance Descriptors
- Essential Learning Expectations

New Standards and ELEs:

http://www.opi.mt.gov/Curriculum/Index.html?gpm=1_8

Old Standards:

http://www.opi.mt.gov/curriculum/MontCAS/#p7GPc1_8

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MARS Help

- 2008 MARS User and Training Guide:
http://www.opi.mt.gov/curriculum/MontCAS/#p7GPc1_10
- Technical Support is available at the following:
 - E-Mail: MarsHelp@measuredprogress.org
 - Phone: (866) 632-7764

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OPI Contact Information

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 - Assessment Administrative Specialist
 - 406-444-3511
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